

Communicate with FusionSolar through an openAPI account



Huawei Technologies Co. Ltd.

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This document describes the procedure about how to test the communication with FusionSolar through an openAPI user. The access privilege to the northbound interface API is independent of third-party user accounts, and users must apply for it separately.

Third-party applications will be limited by one-minute access frequency when accessing the same northbound interface API.

If a third-party application reaches the limit of access frequency during use, the interface will return an access frequency error message.

1. Contact service team at eu_inverter_support@huawei.com to create an openAPI account for your plant.

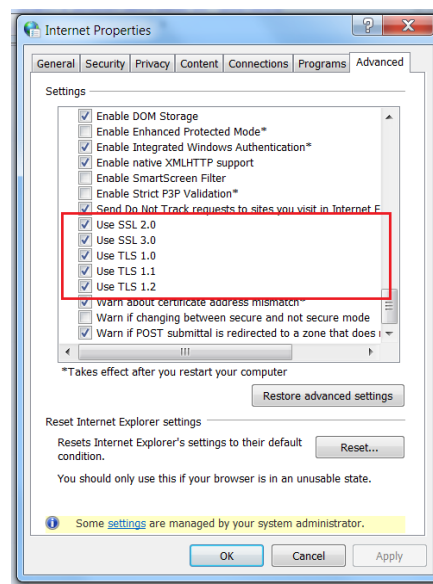
2. Check the communication protocol

Dashboard Web Server query data from FusionSolar through HTTPS protocol, Dashboard Web Server is Client, FusionSolar is Server.

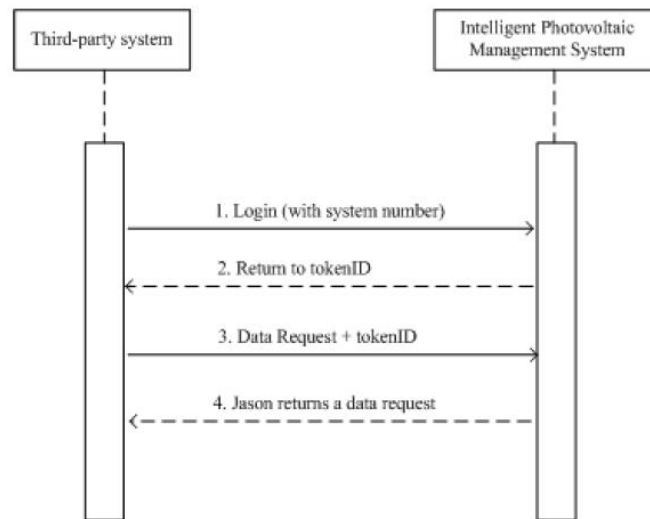
Access format: [https:// management system domain name/specific API interface name +access request parameter](https://management system domain name/specific API interface name +access request parameter).

Source Device	Source IP Address	Source Port	Destination Device	Destination IP Address	Destination Port	Protocol	Port Description	Authentication Mode	Encryption Mode
Client	IP address of the client	Random port	FusionSolar server	IP address of the FusionSolar server	27200	HTTPS	Port for logging in to the FusionSolar server open interface in TLS encryption mode.	Username/password	TLS1.1&1.2

Check if the port 27200 is enable and if you have active on your computer the TLS1.1&1.2 and SSL.



The communication process:

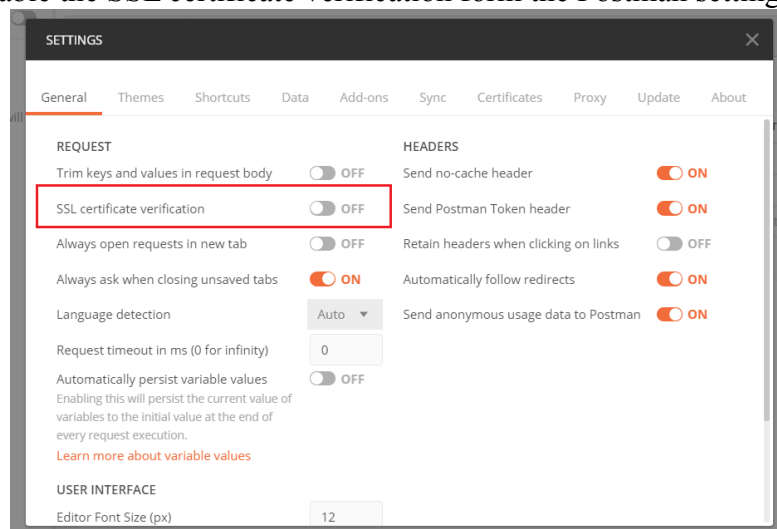


- Please refer to the Chapter "Northbound Management" in the product document for the relevant operation procedures of configuring the third-party system information.
- After configuring the third-party system information, obtain the system number and log in with the system number.
- After successful login, initiate a request to obtain data.

3. Install Postman on your computer



Download and install Postman and before start to interrogate FusionSolar with your openAPI user disable the SSL certificate verification form the Postman settings:



4. Login Interface

Request address: <https://XXXXX/thirdData/login>

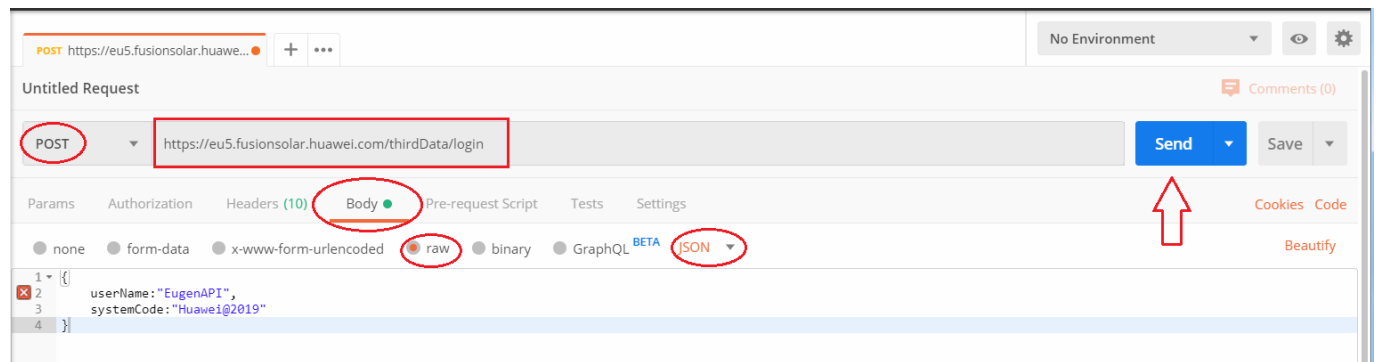
HTTP method: POST

Request parameter:

Parameter Name	Description	Data Type	Required/Optional
systemCode	Password	String	M
userName	User name	String	M

Use the next link to login: <https://eu5.fusionsolar.huawei.com/thirdData/login>

Choose Post, select Body, raw and JSON and insert userName and systemCode(Password) and Send:



Result:



After you login copy the Token that you will use to interrogate the next parameters.

POST

https://eu5.fusionsolar.huawei.com/thirdData/login

Send

Save

Body

Cookies (3)

Headers (19)

Test Results

Status: 200 OK

Time: 4.90s

Size: 1.16 KB

Save Response

Name	Value	Domain	Path	Expires	HttpOnly	Secure
web-auth	true	eu5.fusionsolar.huawei.com	/	Never	true	true
XSRF-TOKEN	eyJhbGciOiJIUzI1NiJ9.eyJyYW5kb21LZXkiOiZOTlZYTBIYi00NTIhLTJZDitODJjNS00ZmQwNjQyMzFkNDQifQ.NgkMDZhGUyG_WCvHzgcp5XmZFEW49yxvisi9wDf8PaE	eu5.fusionsolar.huawei.com	/	Never	false	true
JSESSIONID	1ce712b5-cda9-4957-ae70-9d248e28bcc9	eu5.fusionsolar.huawei.com	/	Never	true	true

5. Interface of Plant List

Request address: <https://XXXXX/thirdData/getStationList>

HTTP method: POST

Request parameter:-

Use the next link to interrogate: <https://eu5.fusionsolar.huawei.com/thirdData/getStationList>

Copy the Token in Headers:

POST	https://eu5.fusionsolar.huawei.com/thirdData/getStationList	Send	Save
Params	Authorization	Headers (2)	Body
KEY	VALUE	DESCRIPTION	
<input checked="" type="checkbox"/> XSRF-TOKEN	eyJhbGciOiJIUzI1NiJ9.eyJyYW5kb21LZXkiOiZOTlZYTBIYi00NTIhLTJZDitODJjNS00ZmQwNjQyMzFkNDQifQ.NgkMDZhGUyG_WCvHzgcp5XmZFEW49yxvisi9wDf8PaE		
<input checked="" type="checkbox"/> Content-Type	application/json		
Key	Value	Description	

Set the interrogation and send:

POST	https://eu5.fusionsolar.huawei.com/thirdData/getStationList	Send	Save
Params	Authorization	Headers (11)	Body
none	form-data	x-www-form-urlencoded	raw
1	{		
2			
3	}		

Result:

```
POST https://eu5.fusionsolar.huawei.com/thirdData/getStationList
{
  "buildCode": "2",
  "data": [
    {
      "aidType": 1,
      "buildState": "3",
      "capacity": 6.0,
      "combineType": "3",
      "linkmanPho": "sarni111@iscall.it",
      "stationCode": "6F89555F628434D9AD3E7B384F3678F",
      "stationLinkman": "Pietro Sarni",
      "stationName": "Pietro Sarni"
    }
  ],
  "failCode": 0,
  "message": "",
  "params": {
    "currentTime": 1577152050702
  },
  "success": true
}
```

Copy the stationCode and currentTime to use at the next interrogation.

6. Interface of Power Station for Real-time Data

Request address: <https://XXXXX/thirdData/getStationRealKpi>

HTTP method: POST

Request parameter:

Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M

Use the next link to interrogate: <https://eu5.fusionsolar.huawei.com/thirdData/getStationRealKpi>

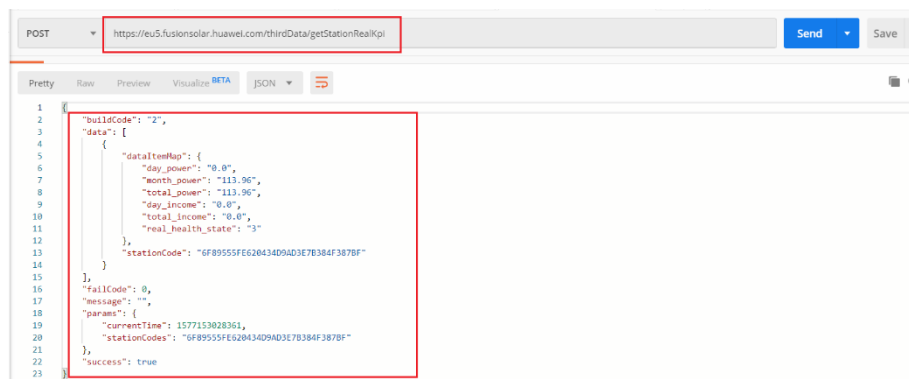
Copy the Token in Headers:

POST	https://eu5.fusionsolar.huawei.com/thirdData/getStationRealKpi	Send	Save
Params	Authorization	Headers (2)	Body
KEY	VALUE	DESCRIPTION	
<input checked="" type="checkbox"/> XSRF-TOKEN	eyJhbGciOiJIUzI1NiIsInR5cCI6IHYwS211LzXkiOiJvZ3NTAyNS0wOTQ4...		
<input checked="" type="checkbox"/> Content-Type	application/json		
Key	Value	Description	

Set the interrogation: insert the stationCode from the Plant List and Send:



Result:



7. Interface of Power Station for Hour Data

Request address: <https://XXXXXX/thirdData/getKpiStationHour>

HTTP method: POST

Request parameter:

Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M
collectTime	Milliseconds in time It hourly queries the hour KPI data for one day (the background processes milliseconds based on the time zone where the power station is located)	Long	M

Use the next link to interrogate:

<https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationHour>

Copy the Token in Headers:

POST <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationHour> [Send](#) [Save](#)

Params Authorization **Headers (2)** Body Pre-request Script Tests Settings [Cookies](#) [Code](#)

▼ Headers (2)

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> Content-Type	application/json	
<input checked="" type="checkbox"/> XSRF-TOKEN	eyJhbGciOiJIUzI1NiIsInR5cCI6IHYW5kb211LZXRkiOiJlYzQ3NTAyNS0wOTQ4...	
Key	Value	Description

Set the interrogation: insert the stationCode and collectTime from the Plant List and **Send**:

POST <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationHour> [Send](#) [Save](#)

Params Authorization Headers (12) **Body** Pre-request Script Tests Settings [Cookies](#) [Code](#)

none form-data x-www-form-urlencoded raw binary GraphQL **JSON** [Beautify](#)

```

1 {
2   "stationCodes": "6F8955FE620434D9AD3E7B384F387BF",
3   "collectTime": 1576486800000
4 }

```

Result:

POST <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationHour> [Send](#) [Save](#)

Pretty Raw Preview Visualize **BETA** JSON [Beautify](#)

```

37 {
38   "collectTime": 1576483200000,
39   "dataItemMap": {
40     "radiation_intensity": null,
41     "theory_power": null,
42     "inverter_power": 1.066,
43     "ongrid_power": null,
44     "power_profit": null
45   },
46   "stationCode": "6F8955FE620434D9AD3E7B384F387BF"
47 },
48 {
49   "collectTime": 1576486800000,
50   "dataItemMap": {
51     "radiation_intensity": null,
52     "theory_power": null,
53     "inverter_power": 2.780,
54     "ongrid_power": null,
55     "power_profit": null
56   },
57   "stationCode": "6F8955FE620434D9AD3E7B384F387BF"
58 },
59 },
60 "failCode": 0,
61 "message": "",
62 "params": {
63   "currentTime": 1576480495263,
64   "collectTime": 1576486800000,
65   "stationCodes": "6F8955FE620434D9AD3E7B384F387BF"
66 },
67 "success": true
68 }

```

8. Interface of Power Station for Day Data

Request address: <https://XXXXX/thirdData/getKpiStationDay>

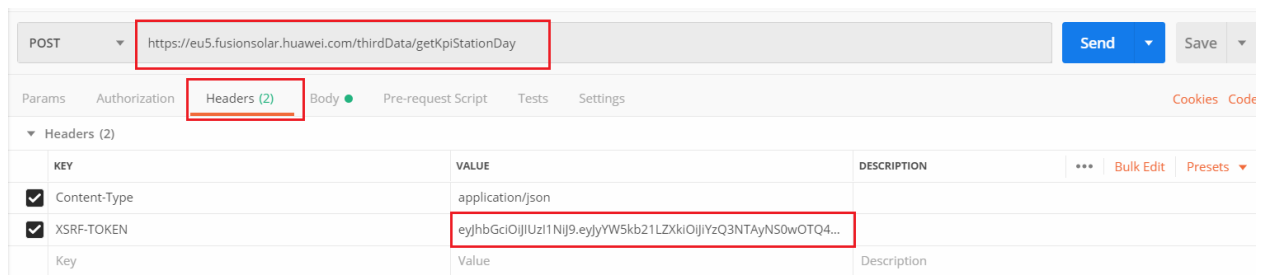
HTTP method: POST

Request parameter:

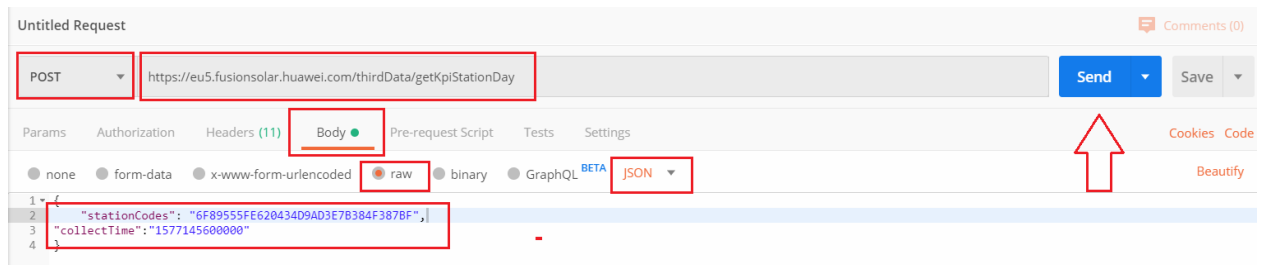
Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M
collectTime	Milliseconds in time It daily queries the day KPI data for one month (the background processes milliseconds based on the time zone where the power station is located)	Long	M

Use the next link to interrogate: <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationDay>

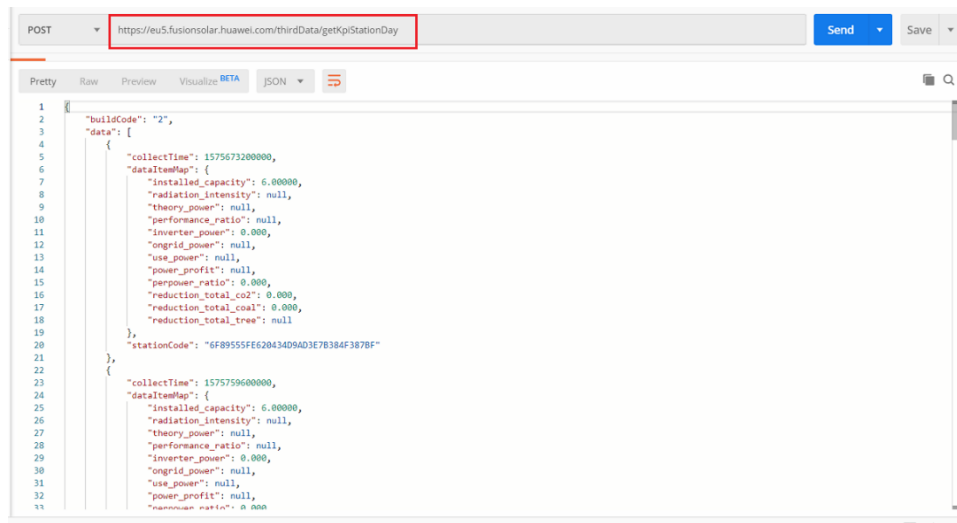
Copy the Token in Headers:



Set the interrogation: insert the stationCode and collectTime from the Plant List and Send:



Result:



```

1 {
2   "buildCode": "2",
3   "data": [
4     {
5       "collectTime": 1575673200000,
6       "dataItemMap": {
7         "installed_capacity": 6.00000,
8         "radiation_intensity": null,
9         "theory_power": null,
10        "performance_ratio": null,
11        "inverter_power": 0.000,
12        "ongrid_power": null,
13        "use_power": null,
14        "power_profit": null,
15        "perpower_ratio": 0.000,
16        "reduction_total_co2": 0.000,
17        "reduction_total_coal": 0.000,
18        "reduction_total_tree": null
19      },
20      "stationCode": "6F89555FE620434D9AD3E7B384F387BF"
21    },
22    {
23      "collectTime": 1575759600000,
24      "dataItemMap": {
25        "installed_capacity": 6.00000,
26        "radiation_intensity": null,
27        "theory_power": null,
28        "performance_ratio": null,
29        "inverter_power": 0.000,
30        "ongrid_power": null,
31        "use_power": null,
32        "power_profit": null,
33        "perpower_ratio": 0.000
34      }
35    }
36  ]
37 }
  
```

9. Interface of Power Station for Month Data

Request address: <https://XXXXX/thirdData/getKpiStationMonth>

HTTP method: POST

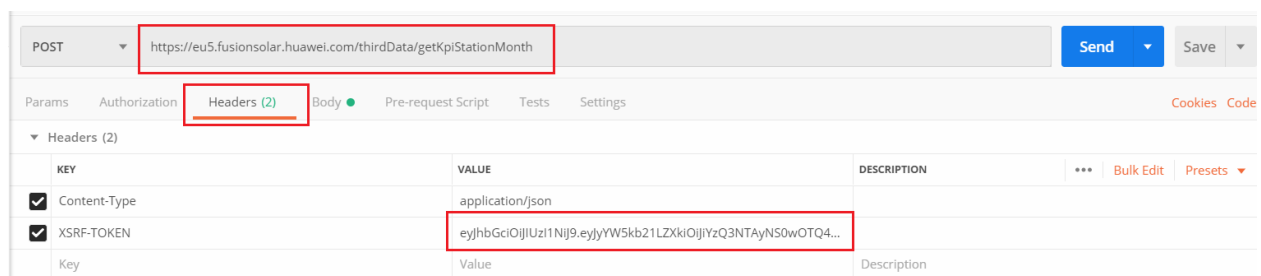
Request parameter:

Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M
collectTime	Milliseconds in time It hourly queries the month KPI data for one year (the background processes milliseconds based on the time zone where the power station is located)	Long	M

Use the next link to interrogate:

<https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationMonth>

Copy the Token in Headers:



KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> Content-Type	application/json	
<input checked="" type="checkbox"/> XSRF-TOKEN	eyJhbGciOiJIUzI1NiJ9.eyJyYW5kb21LZXRkiOiJlZzQ3NTAyNS0wOTQ4...	
Key	Value	Description

Set the interrogation: insert the stationCode and collectTime from the Plant List and Send:

Untitled Request

POST <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationMonth> Send Save

Params Authorization Headers (11) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL BETA JSON

```

1 {
2   "stationCodes": "6F89555FE62043409AD3E7B384F387BF",
3   "collectTime": "1575759600000"
4 }
5

```

Comments (0) Cookies Code Beautify

Result:

POST <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationMonth> Send Save

Pretty Raw Preview Visualize BETA JSON

```

1 {
2   "buildCode": "3",
3   "data": {
4     {
5       "collectTime": 1575154000000,
6       "dataItemMap": {
7         "installed_capacity": 6.00000,
8         "radiation_intensity": null,
9         "theory_power": null,
10        "performance_ratio": null,
11        "inverter_power": 113.960,
12        "ongrid_power": null,
13        "use_power": null,
14        "power_profit": null,
15        "perspower_ratio": 18.994,
16        "reduction_total_co2": 0.114,
17        "reduction_total_coal": 0.046,
18        "reduction_total_tree": null
19      },
20      "stationCode": "6F89555FE62043409AD3E7B384F387BF"
21    },
22    "failCode": 0,
23    "message": "",
24    "params": {
25      "currentTime": 157515702245,
26      "collectTime": "1575759600000",
27      "stationCodes": "6F89555FE62043409AD3E7B384F387BF"
28    },
29    "success": true
30  }
31 }

```

10. Interface of Power Station for Year Data

Request address: <https://XXXXXX/thirdData/getKpiStationYear>

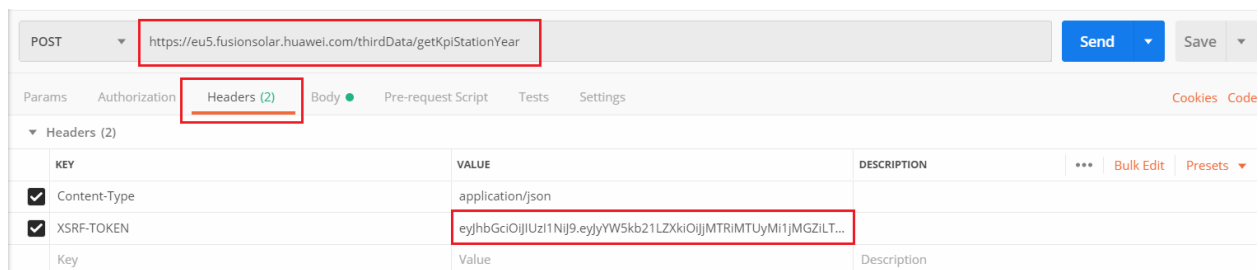
HTTP method: POST

Request parameter:

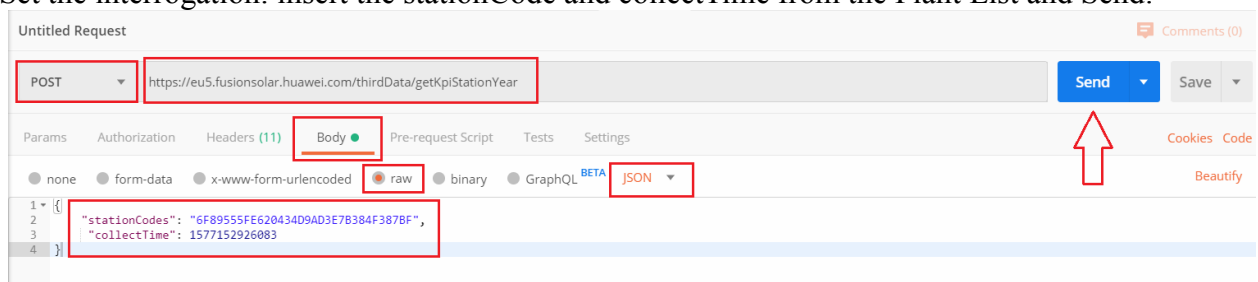
Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M
collectTime	Milliseconds in time It hourly queries the KPI data for 25 years (the background processes milliseconds based on the time zone where the power station is located)	Long	M

Use the next link to interrogate: <https://eu5.fusionsolar.huawei.com/thirdData/getKpiStationYear>

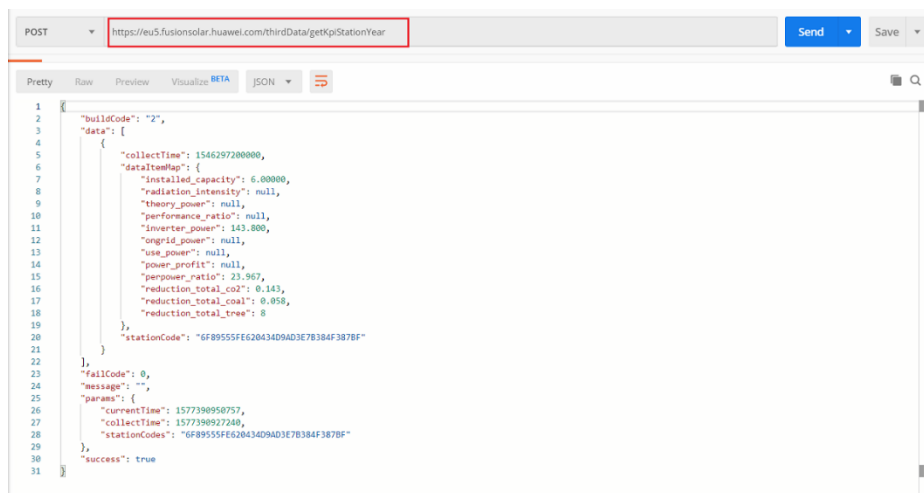
Copy the Token in Headers:



Set the interrogation: insert the stationCode and collectTime from the Plant List and Send:



Result:



11. Interface of Equipment for List

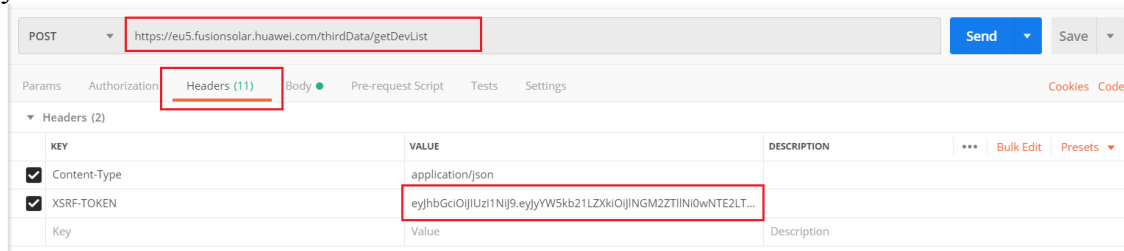
Request address: https://XXXXX/thirdData/getDevList

HTTP method: POST

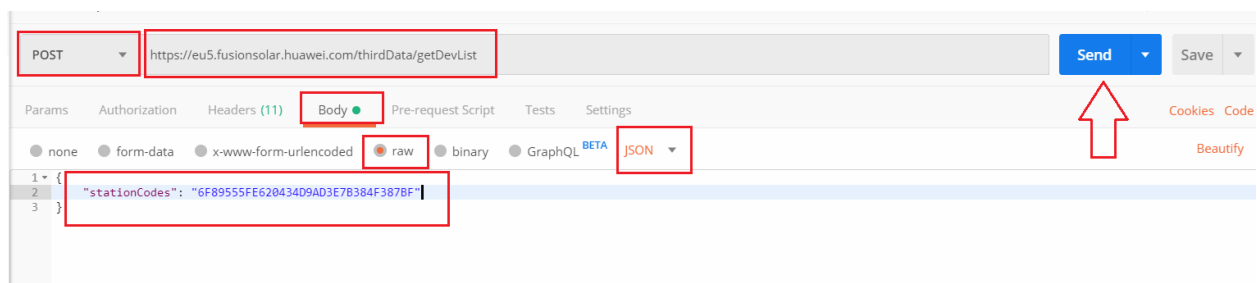
Request parameter:

Parameter Name	Description	Data Type	Required/Optional
stationCodes	For the list of power station numbers, multiple stations are separated by comma symbols	String	M

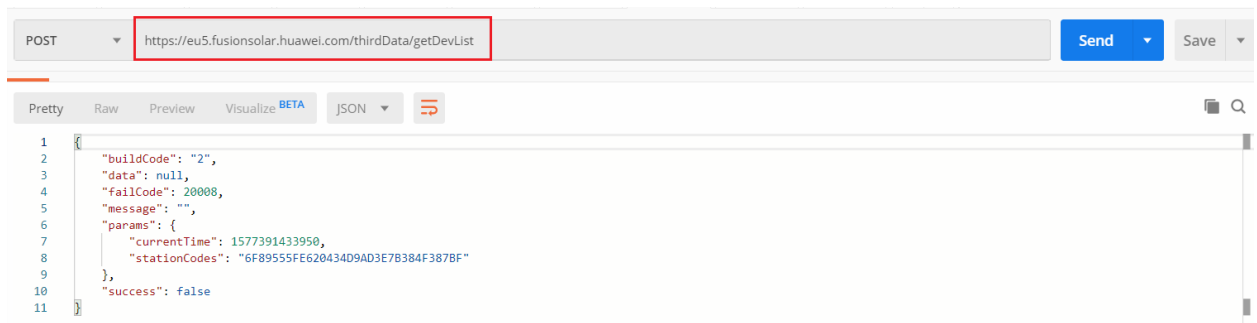
Use the next link to interrogate: <https://eu5.fusionsolar.huawei.com/thirdData/getDevList>
Copy the Token in Headers:



Set the interrogation: insert the stationCode from the Plant List and Send:



Result:



Continue to interrogate equipment for Real-time Data. Ask the service team at eu_inverter_support@huawei.com to provide you the SmartPVMS V300R006C00 Interface Reference file.

If you receive error during the process login again and insert the new Token in Headers.